FIG - 1

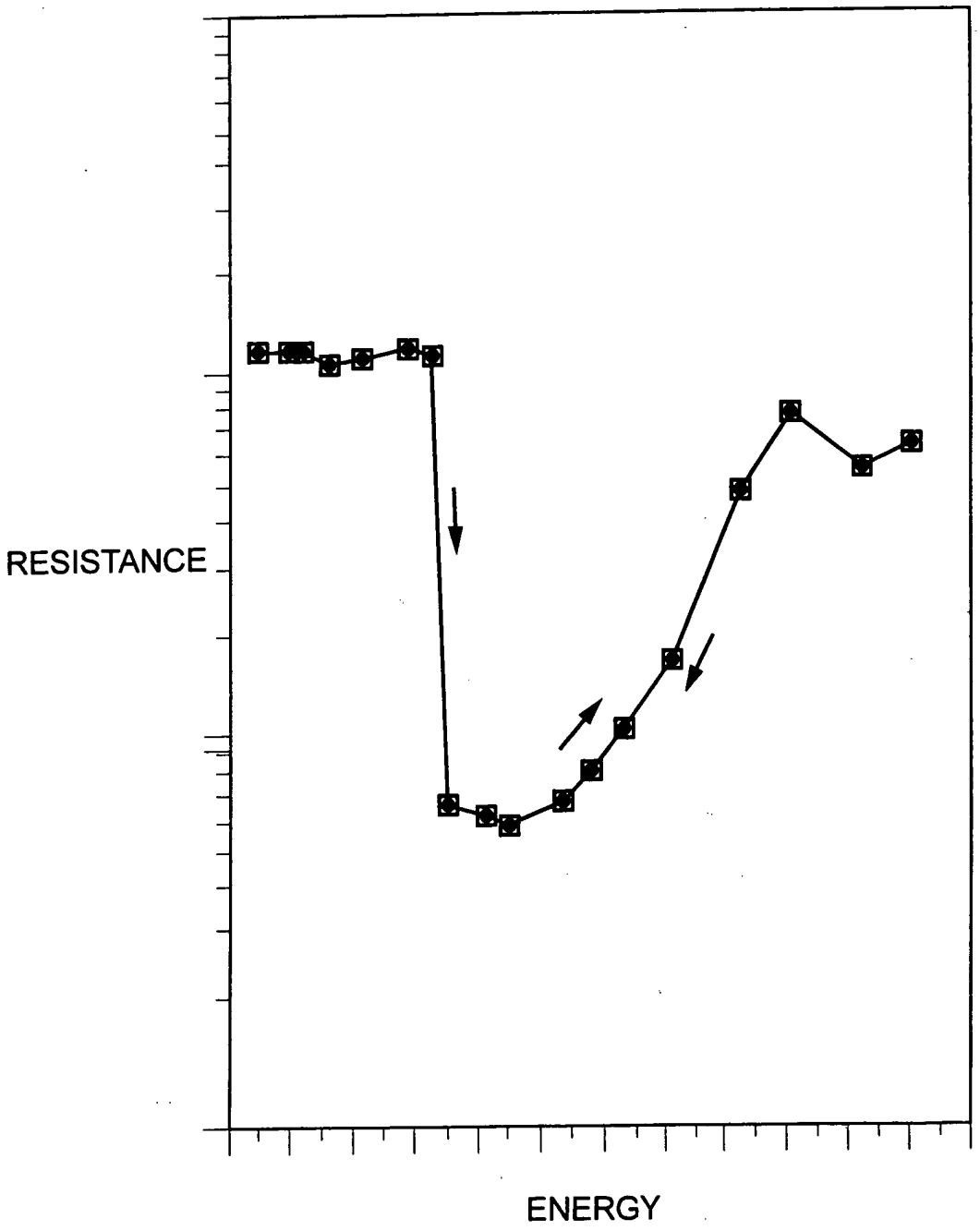


FIG - 2

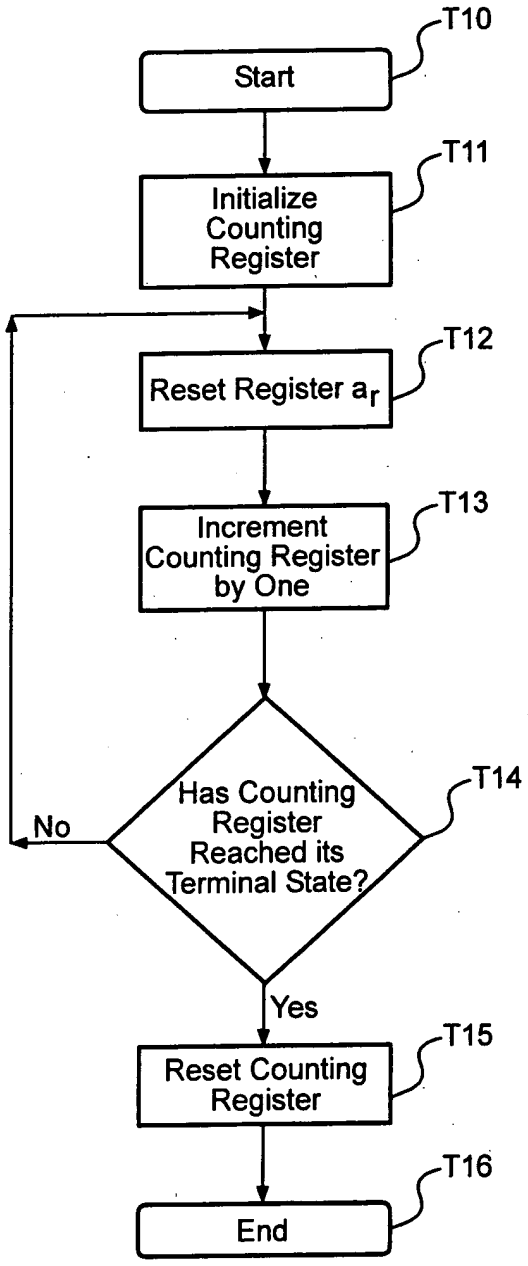

T10
Start
T11
Initialize Counting Register
T12
Reset Register a_r
T13
Increment Counting Register by One
T14
Has Counting Register Reached its Terminal State?
No
Yes
T15
Reset Counting Register
T16
End

FIG - 3

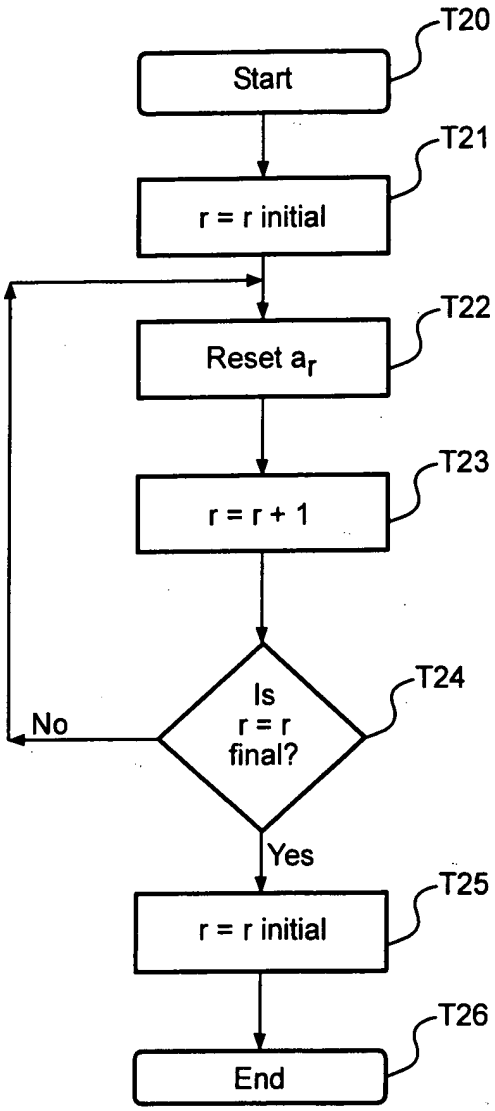
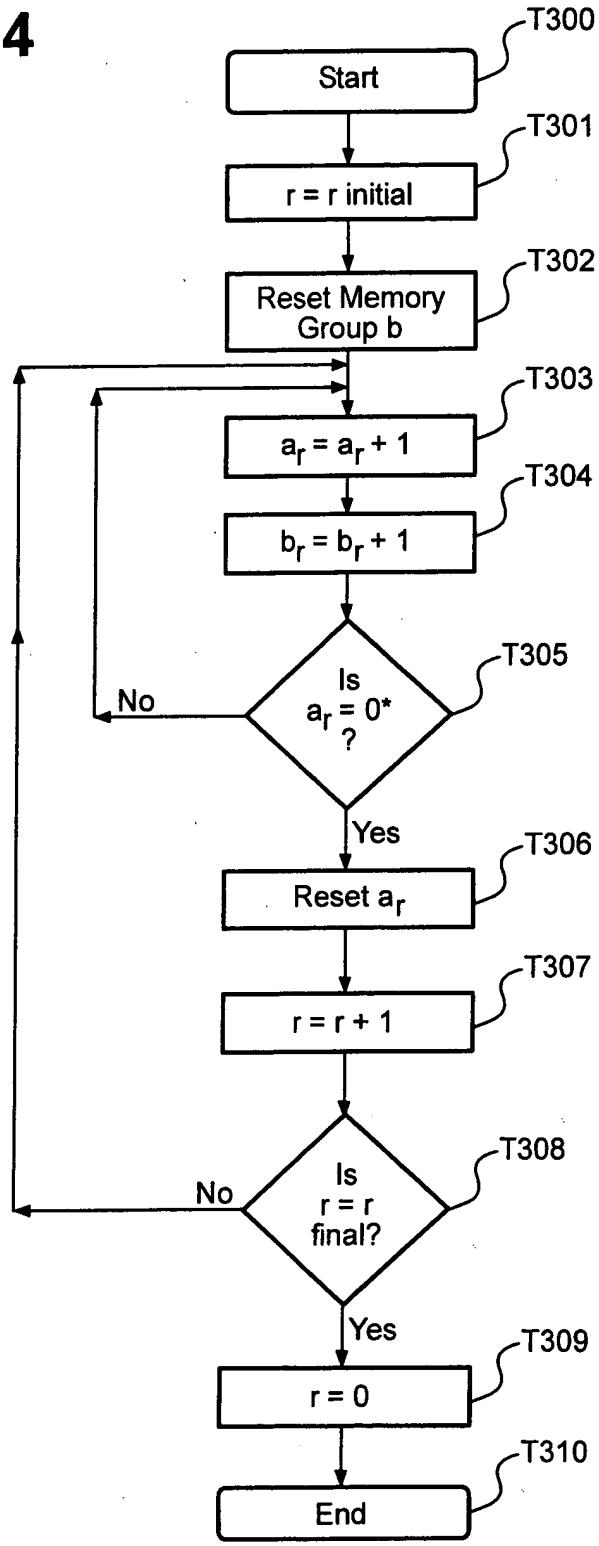
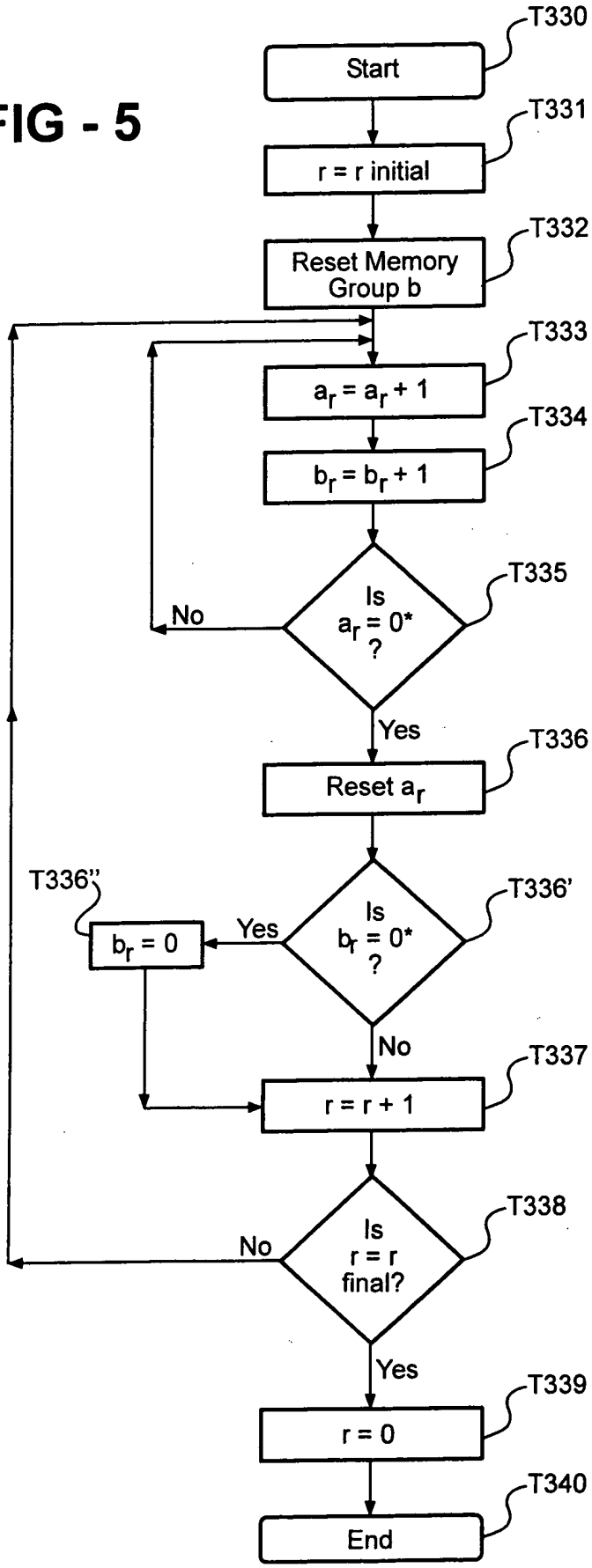

T20
Start
T21
r = r initial
T22
Reset a_r
T23
r = r + 1
T24
Is r = r final?
No
Yes
T25
r = r initial
T26
End

FIG - 4


T300
Start
T301
r = r initial
T302
Reset Memory Group b
T303
$a_r = a_r + 1$
T304
$b_r = b_r + 1$
T305
Is $a_r = 0^*$?
No
Yes
T306
Reset a_r
T307
r = r + 1
T308
Is r = r final?
No
Yes
T309
r = 0
T310
End

HALFCOPY_2 (b;a)

FIG - 5



COPY_1 (b,c;a)

FIG - 6

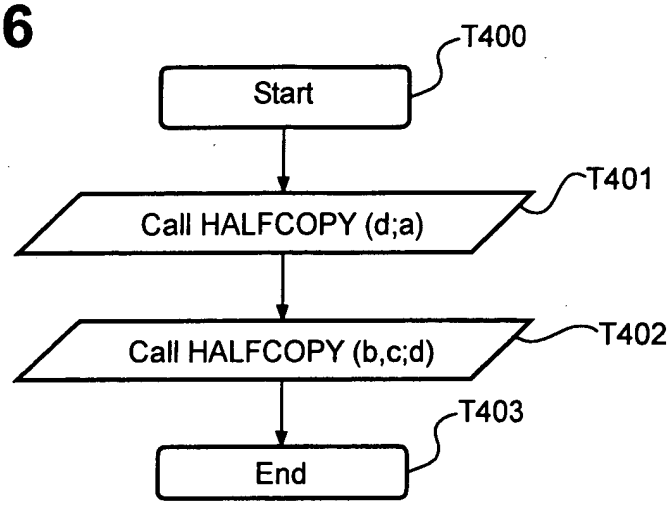


FIG - 7

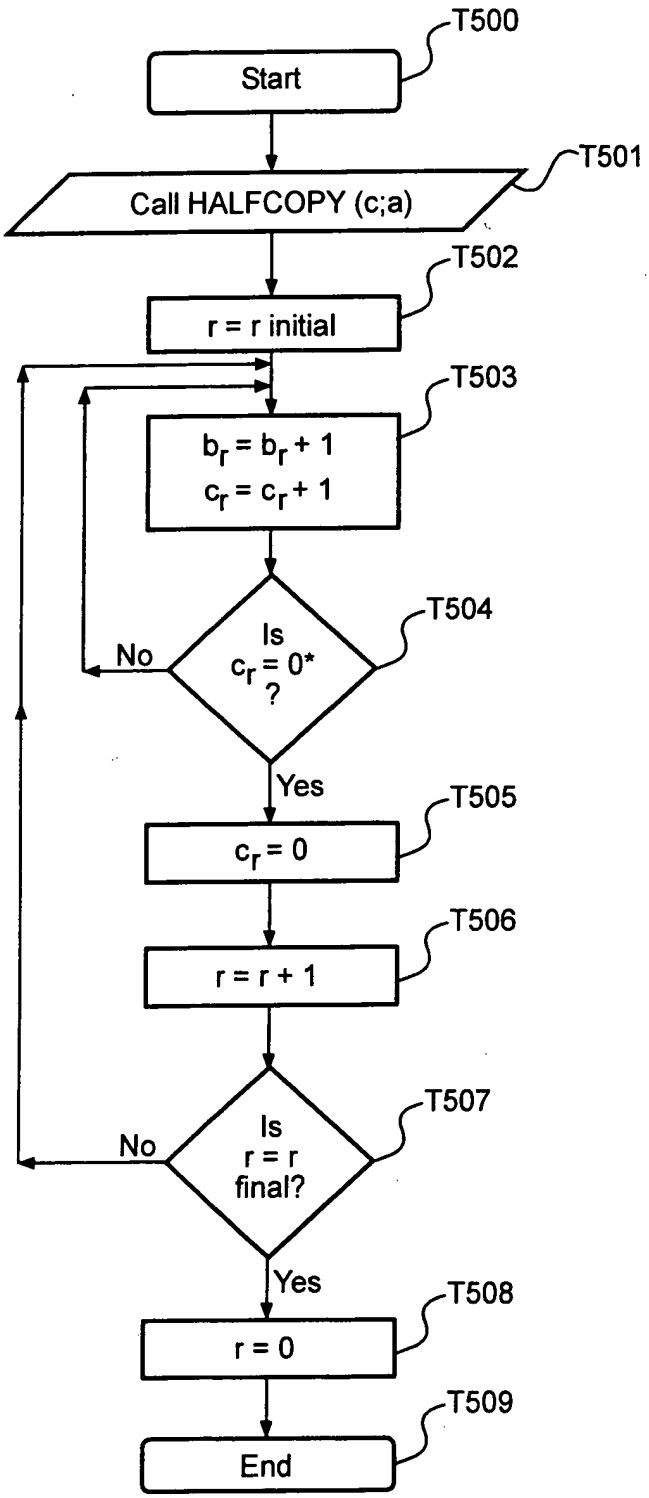

T500
Start
T501
Call HALFCOPY (c;a)
T502
r = r initial
T503
$b_r = b_r + 1$
$c_r = c_r + 1$
T504
Is
$c_r = 0$*
?
No
Yes
T505
$c_r = 0$
T506
r = r + 1
T507
Is
r = r
final?
No
Yes
T508
r = 0
T509
End

FIG - 8

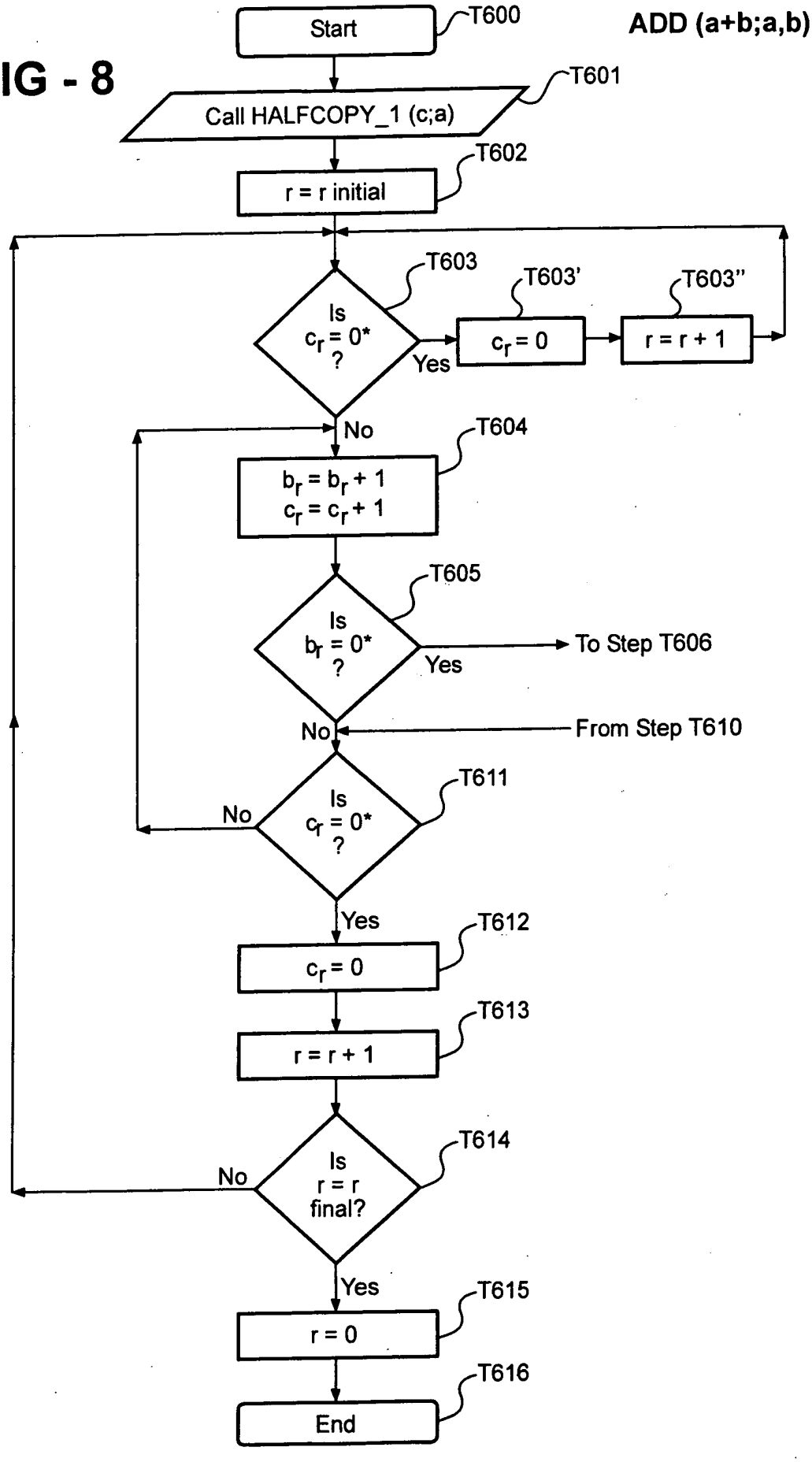
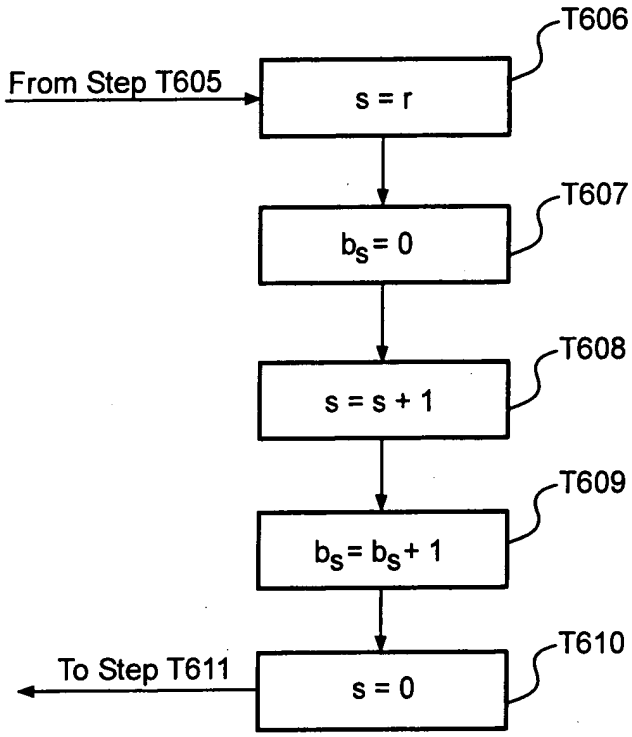
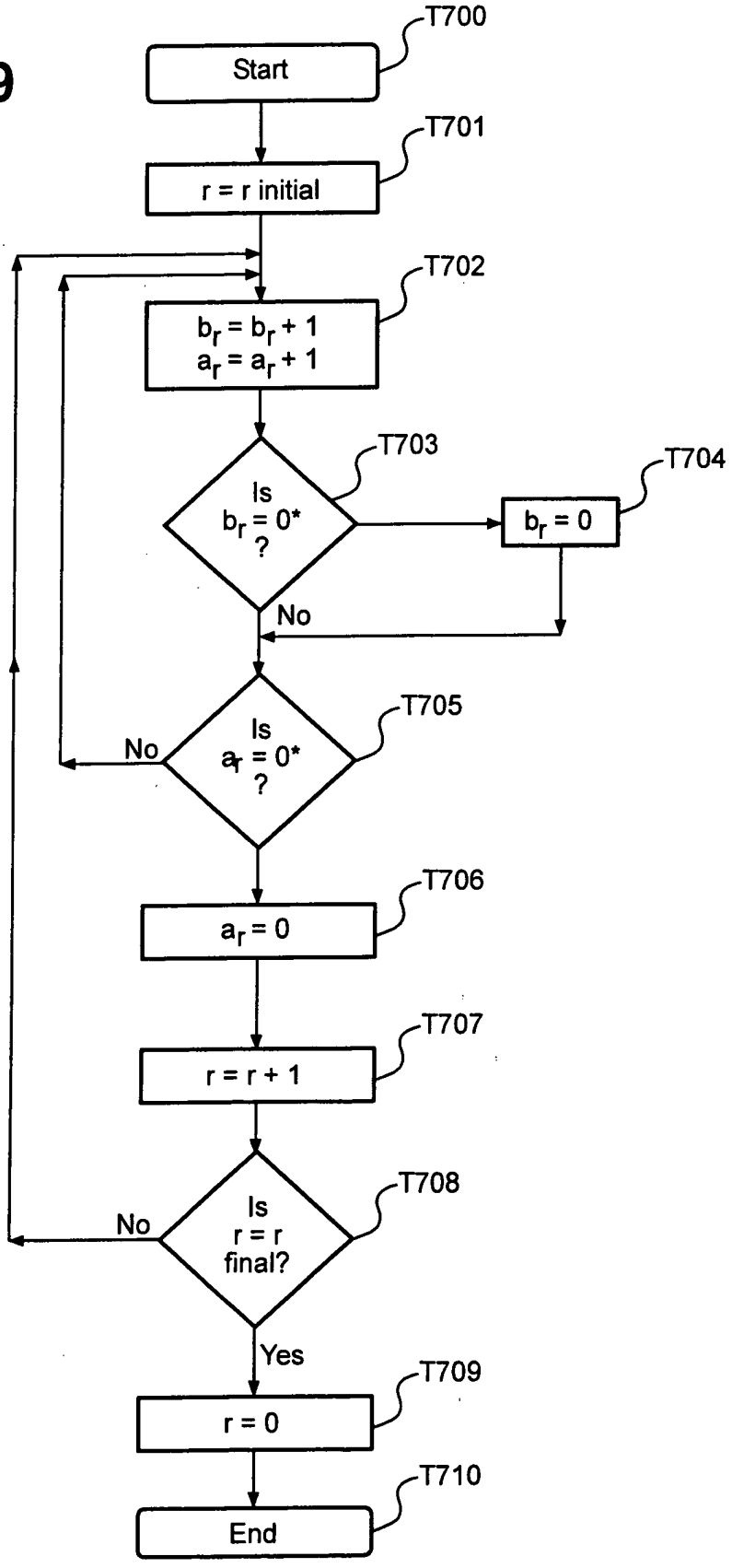

ADD (a+b;a,b)
Start
T600
Call HALFCOPY_1 (c;a)
T601
r = r initial
T602
Is $c_r = 0^*$?
T603
T603'
T603"
$c_r = 0$
r = r + 1
Yes
No
$b_r = b_r + 1$
$c_r = c_r + 1$
T604
Is $b_r = 0^*$?
T605
Yes
To Step T606
No
From Step T610
Is $c_r = 0^*$?
T611
No
Yes
$c_r = 0$
T612
r = r + 1
T613
Is r = r final?
T614
No
Yes
r = 0
T615
End
T616

FIG - 8A


T606
From Step T605
s = r
T607
$b_S = 0$
T608
s = s + 1
T609
$b_S = b_S + 1$
T610
To Step T611
s = 0

BASIC SUBTRACT (b-a;a,b)

FIG - 9



SUBTRACT (b-a;a,b)

FIG - 10

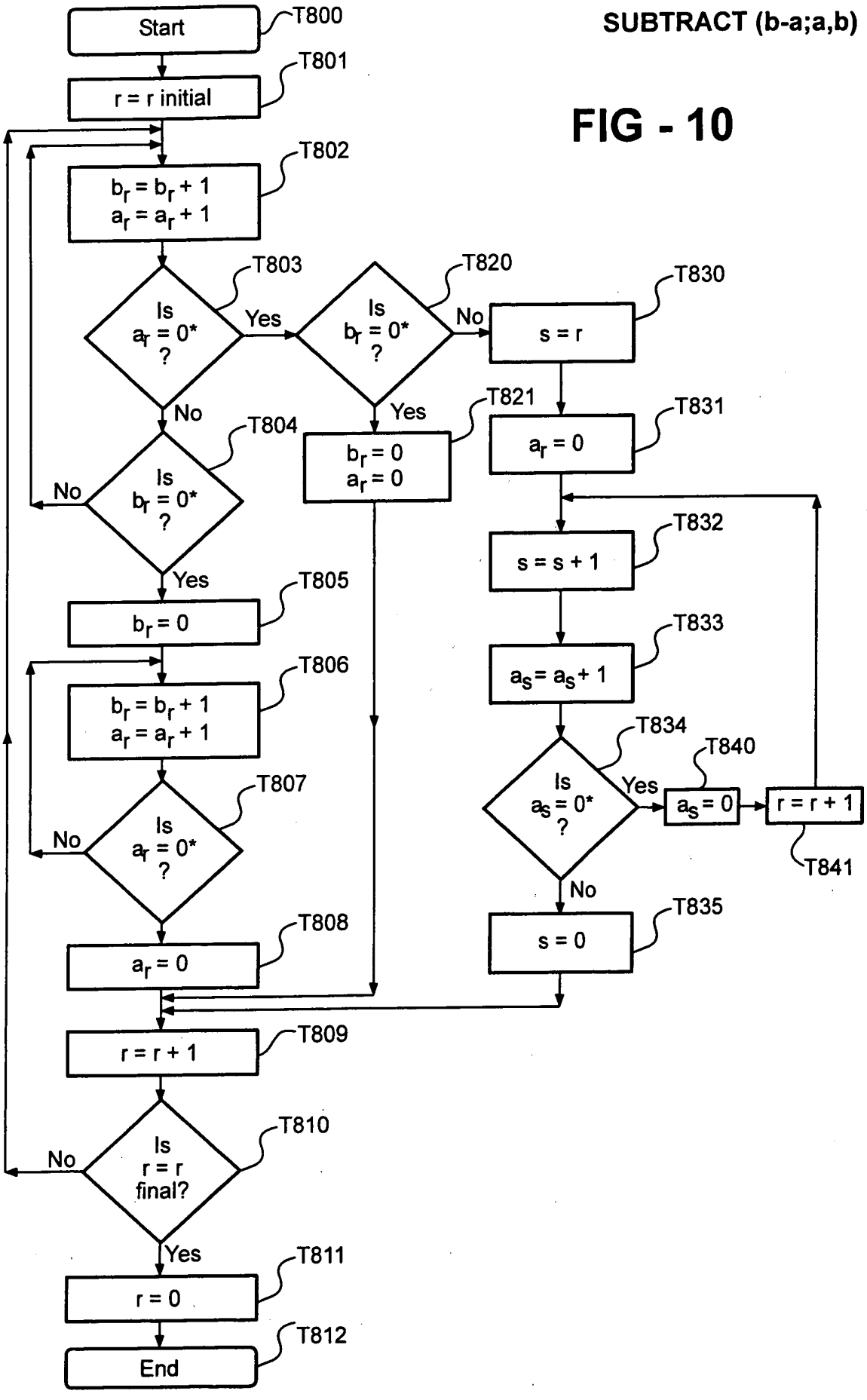


FIG - 11

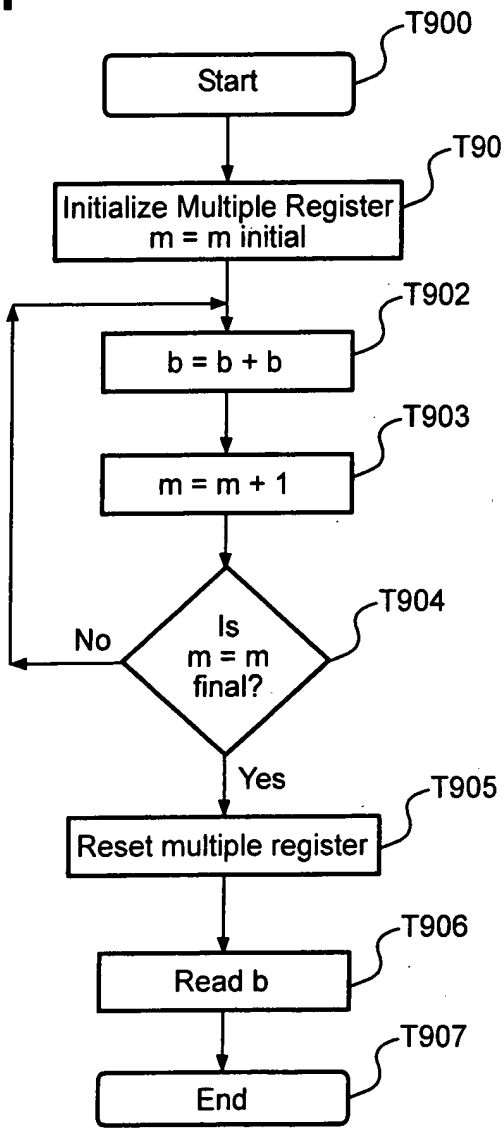
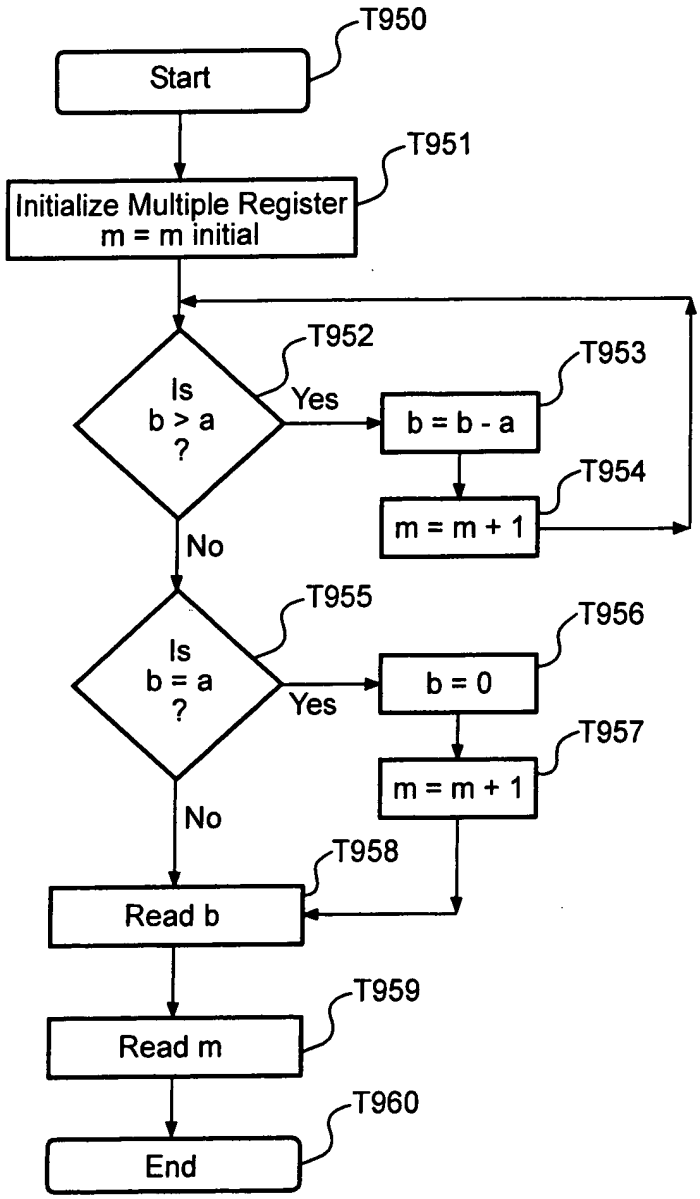

T900
Start
T901
Initialize Multiple Register
m = m initial
T902
b = b + b
T903
m = m + 1
T904
Is
m = m
final?
No
Yes
T905
Reset multiple register
T906
Read b
T907
End

FIG - 12


T950
Start
T951
Initialize Multiple Register
m = m initial
T952
Is
b > a
?
Yes
T953
b = b - a
T954
m = m + 1
No
T955
Is
b = a
?
Yes
T956
b = 0
T957
m = m + 1
No
T958
Read b
T959
Read m
T960
End